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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/533,448

05/02/2005

Kouichi Ikeya

1131-0532PUS1

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2292 7590 11/14/2008
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EXAMINER

LOUIE, WAE LENNY

ART UNIT

PAPER NUMBER

3661

NOTIFICATION DATE

DELIVERY MODE

11/14/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/533,448 | Applicant(s) IKEYA ET AL. | |
| | Examiner WAE LOUIE | Art Unit 3661 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/2/05, 6/16/06, 7/28/06, 8/31/06, 6/25/07, 7/06/07</u> . | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 11-12, 14-16, 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Eskilson (6,345,529).

Regarding applicant claims 1 and 15, Eskilson discloses a transmission control method for a mechanical transmission comprising: a step (a) of controlling an engine torque generated by the internal combustion engine in response to a request for a gear shift of the mechanical transmission so that the value of a transfer torque of the friction clutch is 0 or near 0; a step (b) of allowing the gear shift of the mechanical transmission when the engine torque is controlled so that the value of the transfer torque is 0 or near 0 in said step (a); and a step (c) of disengaging and engaging gears with the clutch kept connected when the gear shift is allowed in said step (b) (col.2 lines 30-57, “disengagement of gears at a zero torque level... it also makes it possible to shorten the time needed between disengaging one gear and engaging the next”; col.3, lines 15-25, “gear changes with the clutch engaged”).

Regarding applicant claims 2-3, 11-12, 14 and 16-17, 20, Eskilson teaches a transmission control method for a mechanical transmission wherein said step (c) includes a sub-step (c1) of changing an engine revolution speed of the internal

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combustion engine after the gear disengagement is performed with the clutch kept connected (col. 3, lines 30-35, clutch remaining engaged") and a sub-step (c2) of performing the gear engagement for a gear stage after the gear shift with the clutch kept connected when the engine revolution speed is substantially synchronous with a gear revolution speed for the gear stage after the gear shift (col.4, lines 19-25, "For a gear change to take place smoothly it is generally desirable to reduce the engine torque to a level corresponding to zero torque in the gearbox... To change to a new gear, the engine speed is thereafter adjusted so that it matches the propeller shaft speed, i.e. the speed of the gearbox output shaft. Thereafter the engine torque is increased to a level desired by the driver").

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-14, 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eskilson (6,345,529).

Regarding applicant claims 4-8 and 18, Eskilson discloses a transmission control method for a mechanical transmission wherein said step (a) includes obtaining a changed engine torque such that the value of the transfer torque is 0 or near 0 in accordance with a first motion equation for a range from the internal combustion engine to the friction clutch (col. 3, lines 15-25, "combustion engine connected via a clutch..

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drive power transmitting connection between the engine and the gearbox”) but is silent concerning a second motion equation for a range from the friction clutch to each wheel and a position on an axle shaft of a vehicle, indicating the changed engine torque, and controlling the internal combustion engine so that the changed engine torque is generated. Eskilson however teaches “for a gear to take place smoothly it is generally desirable first to reduce the engine torque to a level corresponding to zero torque in the gearbox, so that neutral position can be achieved. To change to a new gear, the engine speed is adjusted so that it matches the propeller shaft speed. Thereafter the engine torque is increased to a level desired by the driver” (col. 4, lines 19-25). Again Eskilson is silent concerning the clutch to each wheel and a position on an axle shaft of a vehicle, it would have been obvious to one of ordinary skill in the art to control the engine torque to a desired level as taught by Eskilson since both would have achieved the same results of controlling the internal combustion engine so that the changed engine torque is generated.

Regarding applicant claims 9-10, 13 and 18, Eskilson discloses a transmission control method for a mechanical transmission, but is silent concerning said internal combustion engine including a fuel injection pump unit having a control rack for adjusting a fuel injection quantity, and the step (a) includes controlling the control rack, thereby controlling the engine torque. Although Eskilson is silent concerning fuel injection pump having a control rack, he does include engine’s fuel injection system which is connected to various sensors and a control unit that receives information on

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the engine speed (col.3, lines 40-55). It would have been obvious to use the control unit of Eskilson to perform the engine torque control since the control unit is readily available to modify the desired torque.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WAE LOUIE whose telephone number is (571)272-5195. The examiner can normally be reached on M-F 0700-1530.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on 571-272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Wae Lenny Louie/
Examiner, Art Unit 3661

/Thomas G. Black/
Supervisory Patent Examiner, Art Unit 3661